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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,151	05/30/2006	Kia Silverbrook	YUI81NPUS	6653
24011 7590 06/16/2009 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			EXAMINER HUFFMAN, JILLAND	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 06/16/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/510,151

**Applicant(s)**

SILVERBROOK, KIA

**Examiner**

Julian D. Huffman

**Art Unit**

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 April 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (U.S. 6,467,870 B2) in view of Ishinaga et al. (6,243,109 B1).

Matsumoto discloses:

With regards to claim 4, a print assembly for pagewidth inkjet printing (fig. 1), the print assembly comprising:

an elongate carrier that is mountable on a support structure of a printer in an operative position with respect to a platen of the printer (10);

a number of printhead chips (22) positioned on the carrier, the printhead chips each having a plurality of ink ejection nozzle arrangements (34) on a wafer substrate (24), each nozzle arrangement having an actuator for ejecting ink from an associated nozzle when a resistive element of said actuator is heated (column 7, lines 25-27) by an electric current supplied by drive circuitry (38) on the wafer substrate.

With regards to claim 10, the limitation that each printhead chip is the product of an integrated circuit fabrication process is not seen to further limit the structure of the claimed apparatus.

With regards to claim 11, the drive circuitry is comprised in a CMOS drive circuitry layer positioned on the wafer substrate (24) with the nozzle arrangements (34) positioned on the wafer substrate and the CMOS drive circuitry layer (column 7, lines 28-31 and 41-45).

With regards to claim 12, each nozzle arrangement is electrically connected to the CMOS drive circuitry layer so as to enable ejection of the ink.

With regards to claim 13, a plurality of printhead modules (22), each printhead module incorporating a printhead chip, the printhead modules being mounted on the carrier.

Matsumoto et al. discloses that "the number of short head chips 22 are not limited but not smaller than two, and may be selected according to the size, the number of pixels, resolution of images to be recorded, and the like" (column 6, lines 23-26).

Matsumoto does not disclose at least one controller configured to control operation of at least 10,000 nozzle arrangements, at least two hundred thousand nozzle arrangements, or between forty and one hundred printhead chips

Ishinaga et al. discloses "a print head of the full line type having a length corresponding to the maximum width of a print medium which can be recorded by the printer apparatus... by a combination of a plurality of print heads..." (column 7, lines 7-14). Ishinaga et al. further discloses at least one controller for each print head (fig. 1, element 4), with a "system arrangement suited for the number of nozzles" such that "high-speed data processing can be realized", the "number of circuits in the printer apparatus is reduced" and a number of signal lines is reduced thereby reducing cost (column 8, lines 13-41).

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide at least two hundred thousand nozzle arrangements, or between forty and one hundred printhead chips, since selecting a number of nozzles or chips so as to print at a desired size, number of pixels, or resolution, is well within the ordinary skill in the art, as evidenced by column 6, lines 23-26 of Matsumoto, and such would enable the printer to print on a desired size of print media at a desired resolution.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide a controller on each printhead chip as taught by Ishinaga for the purpose of providing high speed data processing and reducing the number of signal lines and circuits in the printer, thereby reducing cost.

It is further noted that Ishinaga establishes that providing the controller on the printhead of Matsumoto would have been well within the ordinary skill in the art so as to provide a "system arrangement suited for the number of nozzles"... "such that high-speed data processing can be realized".

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Julian D. Huffman/  
Primary Examiner, Art Unit 2853